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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/780,355	02/12/2001	Noboru Kimura	108564	8065

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EXAMINER

PATTERSON, MARC A

ART UNIT	PAPER NUMBER
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1772

13

DATE MAILED: 01/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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# Office Action Summary

Application No.

09/780,355

Applicant(s)

KIMURA ET AL.

Examiner

Marc A Patterson

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1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 25-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### WITHDRAWN REJECTIONS

1. The 35 U.S.C. 103(a) rejection of Claims 1 – 22 and 25 – 27 as being unpatentable over Kimura et al (European Patent No. 0842913) in view of Kimura et al (U.S. Patent No. 5,674,317), of record on page 2 of the previous Action, is withdrawn.

### NEW REJECTIONS

#### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 22 and 25 – 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lashway (U.S. Patent No. 3,986,822) in view of Kimura et al (European Patent No. 0842913).

With regard to Claims 1 and 15 – 18, Lashway discloses a pyrolytic boron nitride double container for the deposition of metals (column 1, lines 11 – 30) having an inner and outer container (column 2, lines 5 – 29; Figure 2). Lashway fails to disclose inner and outer containers having transmissivities with respect to light having a wave number of  $2600\text{ cm}^{-1}$  to  $6500\text{ cm}^{-1}$  wherein the transmissivity of the inner container is 90% or less than that of the outer container, and a container which is used as a source of molecular beams used in molecular beam epitaxy.

Kimura et al teach a pyrolytic boron nitride container in which the lower portion of the container wall has a transmissivity to light having a wave number of  $2600\text{ cm}^{-1}$  to  $6500\text{ cm}^{-1}$  less

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than 90% of the transmissivity of the upper portion (page 3, lines 6 – 9; page 5, lines 26 – 58; page 9, lines 10 – 15) for the purpose of obtaining a container which is heatable by radiant heat during the deposition of metals (the container is used as a source of beams for molecular beam epitaxy; page 5, lines 32 – 40). The desirability of providing for a container in which the lower portion of the container wall has a transmissivity to light having a wave number of  $2600\text{ cm}^{-1}$  to  $6500\text{ cm}^{-1}$  less than 90% of the transmissivity of the upper portion and a container which is used as a source of beams for molecular beam epitaxy would therefore be obvious to one of ordinary skill in the art.

It therefore would have been obvious for one of ordinary skill in the art to provide for an inner and outer container in which the lower portion of the container wall has a transmissivity to light having a wave number of  $2600\text{ cm}^{-1}$  to  $6500\text{ cm}^{-1}$  less than 90% of the transmissivity of the upper portion (therefore a container wherein the transmissivity of the inner container with respect to light having a wave number of  $2600\text{ cm}^{-1}$  to  $6500\text{ cm}^{-1}$  is 90% or less than that of the outer container) in order to obtaining a container which is heatable by radiant heat during the deposition of metals and to use the container as a source of beams for molecular beam epitaxy as taught by Kimura et al.

With regard to Claim 2, the outer surface of the inner container taught by Kimura et al is roughened (page 7, lines 54 – 57).

With regard to Claims 3 – 4 and 7 – 10, silicon is doped into the inner container taught by Kimura et al to form a doped layer (page 8, lines 5 – 30).

With regard to Claims 5 – 6, the doped layer taught by Kimura et al is located within the wall of the inner container (page 8, lines 5 – 30).

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With regard to Claims 11 – 12, the thickness of the inner container taught by Kimura et al is greater than that of the outer container (page 3, lines 44 – 46).

With regard to Claims 13 – 14, the transmissivity of the inner container taught by Kimura et al changes in the height direction of the container (page 3, lines 6 – 15).

With regard to Claims 19 – 20, there is a gap between the inner container and outer container disclosed by Lashway (an additional layer; column 1, lines 64 – 67).

With regard to Claims 21 – 22, Lashway discloses a gap which is 0.2 to 30 mm wide. (0.025 cm; column 3, lines 9 – 13).

With regard to Claim 25, the transmissivity of the inner container disclosed by Kimura et al is 90% or less of the outer container transmissivity as discussed above; the claimed aspect of the transmissivity of the inner container being 70% or less of the outer container transmissivity therefore reads on Kimura et al.

With regard to Claims 26 – 27, the inner container taught by Kimura et al comprises pyrolytic boron nitride combined with pyrolytic graphite (page 5, lines 41 – 49).

#### ANSWERS TO APPLICANT'S ARGUMENTS

4. Applicant's arguments regarding the Claims 1 – 22 and 25 – 27, of record on page 2 of the previous Action, have been considered and have been found to be persuasive. The rejection is therefore withdrawn. The new 35 U.S.C. 103(a) rejection of Claims 1 – 22 and 25 – 27 as being unpatentable over Lashway (U.S. Patent No. 3,986,822) in view of Kimura et al (European Patent No. 0842913) above is directed to amended Claims 1 – 22 and 25 – 27.

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5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

### *Conclusion*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Patterson, whose telephone number is (703) 305-3537. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached at (703) 308-4251. FAX communications should be sent to (703) 872-9310. FAXs received after 4 P.M. will not be processed until the following business day.

Marc A. Patterson, PhD.  
*Marc Patterson*  
Art Unit 1772

*[Signature]*  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
*1772*

*1/22/04*